WEST Search History

DATE: Saturday, April 05, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT; PLUR=YES; OP=ADJ			
L1	s type I	15	L1
L2	TYPE i	19596	L2
L3	TYPE II	13781	L3
L4	L3 SAME L2	6191	L4
L5	1:1	145981	L5
L6	L5 AND L4	1331	L6
L7	COLLAGEN AND L6	312	L7
L8	((TYPE I) SAME (TYPE II)) SAME COLLAGEN	396	L8
L9	L8 SAME 1:1	5	L9
L10	((TYPE I) SAME (TYPE IV)) SAME 1:1	21	L10
L11	COLLAGEN SAME L10	1	L11
L12	TYPE I SAME TYPE 4	43	L12
L13	COLLAGEN AND L12	12	L13
L14	TYPE I SAME TYPE IV	935	L14
L15	COLLAGEN SAME L14	292	L15
L16	1:1 AND L15	68	L16
L17	LAMININ AND L16	45	L17
L18	l16 not L17	23	L18
L19	heparin and L15	106	L19
L20	LAMININ AND L19	93	L20
L21	L20 NOT L18	93	L21

END OF SEARCH HISTORY

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Today's Date: 12/10/2001

DB Name	Query	Hit Count	Set Name
USPT	TYPE (W) III (W) COLLAGEN	2225579	L9
USPT	TYPE (W) I (W) COLLAGEN	2420474	L8
USPT	L4 AND L6	2863	L7
USPT	L2 AND L3	4224	L6
USPT	L2 AND L3	4224	L5
USPT	NERVE (W) REGENERATION	749114	L4
USPT	COLLAGEN	20257	L3
USPT	IMPLANTS	38055	L2
USPT	IMPLANTS	38055	L1

L15 ANSWER 43 OF 47 MEDLINE
AN 84240584 MEDLINE
DN 84240584 PubMed ID: 6588089
TI **Nerve** regeneration through **collagen tubes**.
AU Colin W; Donoff R B
SO JOURNAL OF DENTAL RESEARCH, (1984 Jul) 63 (7) 987-93.
Journal code: 0354343. ISSN: 0022-0345.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Dental Journals; Priority Journals
EM 198408
ED Entered STN: 19900320
Last Updated on STN: 19900320
Entered Medline: 19840814
AB Severe **nerve** injuries may require microsurgical grafting to span a defect. Introduction of graft material into a highly vascular recipient bed is documented to aid in early regeneration of **neuronal** blood supply. A silicone rod (SR)-induced fibrovascular sheath was employed to evaluate the regeneration of rat tibial **nerve** through 2-mm-diameter **collagen tubes** (CT) or contralateral **nerve** autografts (AUTO). At first operation, 5 mm of right tibial **nerve** was resected from 30 retired male breeder Sprague-Dawley rats. Resected **nerve** was replaced with either a 5 X 2 mm SR or the **nerve** ends were sutured to the intermuscular fascia. Four weeks later, animals were repaired by replacing the SR with either a CT or a contralateral AUTO from the left tibial **nerve**. Three months later, EMG testing was performed, and histologic sections were prepared. The EMG latency and the size of the compound action potential for sheathed or non-sheathed CT or AUTO were statistically superior to controls at the 95% confidence level. All other intergroup comparisons of latency and action potential size were statistically insignificant. The proportion of **nerve** fibers traversing the surgical sites was not influenced by the method of repair or by the presence or absence of sheathing. Tubulized repairs most closely resembled unoperated **nerves**, and autografted repairs had a large diameter, but much fibrosis, whereas controls displayed immaturity and disorganization. Our observations suggest that there was no difference between repairs performed with or without a vascular pseudosheath. However, CT supported regeneration better than did AUTO repair.

15 ANSWER 36 OF 47 MEDLINE
AN 94110894 MEDLINE
DN 94110894 PubMed ID: 8283264
TI Labeled Schwann cell transplants versus sural **nerve** grafts in **nerve** repair.
AU Kim D H; Connolly S E; Kline D G; Voorhies R M; Smith A; Powell M; Yoes T; Daniloff J K
CS Department of Neurosurgery, Louisiana State University Medical Center, New Orleans.
SO JOURNAL OF NEUROSURGERY, (1994 Feb) 80 (2) 254-60.
Journal code: 0253357. ISSN: 0022-3085.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199402
ED Entered STN: 19940228
Last Updated on STN: 19940228
Entered Medline: 19940217
AB This study evaluated the ability of Schwann cell transplants to enhance the recovery of function in injured **nerves** and compared the results to those produced by sural **nerve** grafts. Schwann cells were isolated from sciatic **nerves**, prelabeled with gold fluorescent dye admixed with collagen gel, and placed in resorbable **collagen tubes**. Twenty-four adult rats underwent severing of the bilateral sciatic **nerves**, with a 10-mm gap between the **nerve** stumps. The rats were then divided into two groups. A **collagen tube** with implanted Schwann cells was implanted in one leg of the Group I rats, and the contralateral leg served as a control and was repaired with a **collagen tube** filled with collagen gel only. The Group II animals received conduits packed with labeled Schwann cells in one leg to bridge the 10-mm gap; the contralateral leg was repaired with an autogenous sural **nerve** graft. Recovery of function was assessed physiologically and morphologically. **Nerve** conduction velocity and **nerve** action potential amplitude measurements showed that the Schwann cell implants induced return of function comparable to that of the sural **nerve** grafts. Morphological assessments of myelination suggested a tendency toward greater numbers of myelinated axons in Schwann cell implants than in sural **nerve** grafts. Anatomical analyses of gold fluorescent dye showed both high viability of prelabeled Schwann cells at 120 days after transplantation and migration as far as 30 mm away from the implant site.

L15 ANSWER 35 OF 47 MEDLINE
AN 94111079 MEDLINE
DN 94111079 PubMed ID: 8283421
TI Comparison of macropore, semipermeable, and nonpermeable collagen conduits in **nerve** repair.
AU Kim D H; Connolly S E; Zhao S; Beuerman R W; Voorhies R M; Kline D G
CS Department of Neurosurgery, Louisiana State University Medical Center, New Orleans 70112.
SO JOURNAL OF RECONSTRUCTIVE MICROSURGERY, (1993 Nov) 9 (6) 415-20.
Journal code: 8502670. ISSN: 0743-684X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199402
ED Entered STN: 19940228
Last Updated on STN: 19980206
Entered Medline: 19940216
AB Twelve rabbits were used to study functional **nerve** regeneration through macropore, semipermeable, and nonpermeable collagen conduits. Each animal underwent a 10-mm bilateral resection of posterior tibial **nerve**. Lesions were repaired with a macropore **collagen tube** in one leg, and with a semipermeable or a nonpermeable **collagen tube** contralaterally. Functional **nerve** regeneration was evaluated at 6 and 12 weeks post-repair periods. Functional recovery was assessed by electrophysiologic analysis of **nerve** conduction velocity, amplitude of **nerve** action potential, amplitude and area of muscle action potential, and by quantitative and qualitative histologic analysis of myelinated **nerve** fibers from the distal **nerve** stumps. The macropore-**collagen-tube** group showed significantly greater functional recoveries than semipermeable or nonpermeable **collagen-tube** groups, based on electrophysiologic and histologic analyses.

L15 ANSWER 36 OF 47 MEDLINE

L15 ANSWER 34 OF 47 MEDLINE
AN 94133208 MEDLINE
DN 94133208 PubMed ID: 8301632
TI Sciatic **nerve** regeneration across gaps within collagen chambers: the influence of epidermal growth factor.
AU Dubuisson A S; Beuermann R W; Kline D G
CS Department of Neurosurgery, Louisiana State University Medical Center, New Orleans.
SO JOURNAL OF RECONSTRUCTIVE MICROSURGERY, (1993 Sep) 9 (5) 341-6; discussion 346-7.
Journal code: 8502670. ISSN: 0743-684X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199403
ED Entered STN: 19940318
Last Updated on STN: 20000303
Entered Medline: 19940307
AB The effects of Epidermal Growth Factor (EGF) on axonal regeneration of a sectioned sciatic **nerve** within **collagen tubes** were investigated in 15 rats. Following baseline electrophysiologic assessment, bilateral 7-mm **nerve** gaps were created and repaired by interposition of **collagen tubes**, into which EGF (left side) or type I collagen (right side) was instilled. After 4 or 8 weeks, axonal regeneration, measured by electrophysiologic and histologic means, was identical for the EGF and control legs. The conclusion is that EGF does not influence **nerve** regeneration within a collagen chamber.

15 ANSWER 26 OF 47 MEDLINE
AN 97429881 MEDLINE
DN 97429881 PubMed ID: 9285519
TI Axonal regrowth through **collagen tubes** bridging the spinal cord to **nerve** roots.
AU Liu S; Peulve P; Jin O; Boisset N; Tiollier J; Said G; Tadie M
CS Department of Neurosurgery, Hospital of Bicetre, Le Kremlin Bicetre, France.
SO JOURNAL OF NEUROSCIENCE RESEARCH, (1997 Aug 15) 49 (4) 425-32. Journal code: 7600111. ISSN: 0360-4012.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199710
ED Entered STN: 19971105
Last Updated on STN: 19980206
Entered Medline: 19971023
AB The capacity of central nervous system (CNS) axons to elongate from the spinal cord to the periphery throughout a tubular implant joining the ventral horn of the spinal cord to an avulsed root was investigated in a model of brachial plexus injury. The C5-C7 roots were avulsed by controlled traction and the C6 root was bridged to the spinal cord over a 3 mm gap by the use of a collagen cylinder containing or not containing an autologous **nerve** segment, or an autologous **nerve** graft. Nine months later, the functionality and the quality of the axonal regrowth was evaluated by electrophysiology, retrograde labelling of **neurons**, and histological examination of the gap area. A normal electromyogram of the biceps was observed in all animals where the C6 root was bridged to the spinal cord. The mean average amplitude of the motor evoked potentials was comprised between 17.51 +/- 12.03 microV in animals repaired with a collagen cylinder, and 27.83 +/- 22.62 microV when a **nerve** segment was introduced in the tube. In nonrepaired animals spontaneous potentials reflecting a muscle denervation were observed at electromyography. Retrograde labelling indicated that a mean number of 58.88 +/- 37.89 spinal cord **neurons** have reinnervated the biceps in animals repaired with a tube versus 78.38 +/- 62.11 when a **nerve** segment was introduced in the channel, and 97.25 +/- 56.23 in **nerve** grafting experiments. Analyses of the repair site showed the presence of numerous myelinated regenerating axons. In conclusion, our results indicate that spinal cord **neurons** can regenerate through tubular implants over a 3 mm gap, and that this axonal regrowth appeared as effective as in **nerve** grafting experiments. The combination of an implant and a **nerve** segment did not significantly increase the regeneration rate.

L15 ANSWER 27 OF 47 MEDLINE

L15 ANSWER 25 OF 47 MEDLINE
AN 1998297716 MEDLINE
DN 98297716 PubMed ID: 9635793
TI Functional recovery of transected **nerves** treated with systemic BDNF and CNTF.
AU Cheng E T; Utley D S; Ho P R; Tarn D M; Coan G M; Verity A N; Sierra D H; Terris D J
CS Division of Otolaryngology/Head and Neck Surgery, Stanford University Medical Center, CA 94305-5328, USA.
SO MICROSURGERY, (1998) 18 (1) 35-41.
Journal code: 8309230. ISSN: 0738-1085.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199808
ED Entered STN: 19980903
Last Updated on STN: 20000303
Entered Medline: 19980825
AB The purpose of this study was to investigate the effect of systemic co-injections of ciliary **neurotrophic** factor (CNTF) and brain-derived **neurotrophic** factor (BDNF) on the functional recovery of transected sciatic **nerves** repaired by epineurial coaptation (EC) or **collagen tubulization** (CT). Forty Sprague-Dawley rats underwent transection of their sciatic **nerves** and repair by either EC or CT. With each repair technique, systemic injections of **neurotrophic** factors or control injections of lactated Ringer's solution were given. This resulted in four treatment groups: EC, EC + BDNF/CNTF, CT, and CT + BDNF/CNTF. **Nerve** function was assessed using sciatic functional indices (SFI). Animals whose **nerves** were repaired by CT ($P = 0.01$), CT + BDNF/CNTF ($P = 0.04$), and EC + BDNF/CNTF ($P = 0.04$) all had better functional recovery than those whose **nerves** were repaired by EC. There were no significant differences among these three groups, however. Animals in the CT group manifested the most rapid rate of recovery ($P = 0.02$ compared with EC). **Collagen tubulization** and systemic co-injections of BDNF/CNTF improve the rate and extent of sciatic functional recovery after **nerve** repair. The improvement in recovery conferred is not additive.

L15 ANSWER 23 OF 47 MEDLINE
AN 1998366640 MEDLINE
DN 98366640 PubMed ID: 9703080
TI Motor versus sensory **neuron** regeneration through **collagen tubules**.
AU Madorsky S J; Swett J E; Crumley R L
CS Department of Otolaryngology-Head and Neck Surgery, University of California Irvine, Orange 92868, USA.
SO PLASTIC AND RECONSTRUCTIVE SURGERY, (1998 Aug) 102 (2) 430-6; discussion 437-8.
Journal code: 1306050. ISSN: 0032-1052.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199808
ED Entered STN: 19980828
Last Updated on STN: 19980828
Entered Medline: 19980819
AB Differences in regeneration of sensory and motor **nerves** were studied in rats to determine the effects of entubulation with collagen conduits. The rat sciatic **nerve** was repaired either with a 10-mm saline-filled gap or with a no-gap end-to-end repair cuffed within **collagen tubules**. These repairs were compared with the standard epineurial repairs. The populations of regenerated motor and sensory **neurons** in the peroneal **nerves** of all repairs were compared against the populations of normal peroneal **neurons** using horseradish peroxidase retrograde labeling. The epineurial repair resulted in regeneration of 65 percent (409 +/- 150) of motor **neurons** and 79 percent (2127 +/- 516) of sensory **neurons** (n = 6). The no-gap end-to-end repair in a **collagen tubule** resulted in regeneration of 53 percent (338 +/- 203) of motor and 70 percent (1893 +/- 794) of sensory **neurons** (n = 7). In the 10-mm gap repair, only 6.2 percent (39 +/- 18) of motor **neurons** but 63 percent (1710 +/- 557) of sensory **neurons** regenerated (n = 5). These results show that collagen entubulation supports **nerve** regeneration in end-to-end **nerve** repairs comparably to standard epineurial suture repairs. With the 10-mm gap repairs in **collagen tubules**, sensory **neurons** regenerated consistently better than motor **neurons** in the same environment. Therefore, intrinsic differences exist between motor and sensory **neuron** regeneration in the same **nerve**
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L15 ANSWER 22 OF 47 MEDLINE
AN 1998429006 MEDLINE
DN 98429006 PubMed ID: 9758039
TI Early peripheral **nerve** healing in collagen and silicone tube implants: myofibroblasts and the cellular response.
AU Chamberlain L J; Yannas I V; Arrizabalaga A; Hsu H P; Norregaard T V; Spector M
CS Department of Mechanical Engineering, Massachusetts Institute of Technology, Cambridge 02139, USA.
SO BIOMATERIALS, (1998 Aug) 19 (15) 1393-403.
Journal code: 8100316. ISSN: 0142-9612.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199812
ED Entered STN: 19990115
Last Updated on STN: 19990115
Entered Medline: 19981208
AB Injuries to peripheral **nerves** innervating a limb cause paralysis, and can necessitate amputation. The inability of the **nerves** to regenerate spontaneously and the limitations of autograft procedures led to the development of treatments involving insertion of the **nerve** ends into prosthetic tubular devices. Previous work showed that 'entubulation' of the **nerve** ends in a silicone tube containing a specific porous, resorbable collagen-GAG (CG) copolymer, serving as an analog of extracellular matrix, improved regeneration compared to an empty silicone tube. However, long-term treatment with silicone tubes produced constriction that caused partial degradation of the regenerated axons; for this and other reasons, implementation of a nondegradable tube may require a second surgical procedure for removal. In this study the silicone tube was replaced with porous and non-porous **collagen tubes** in order to produce fully degradable devices. CG-filled **collagen tubes** and controls (CG-filled silicone tubes and empty collagen and silicone tubes) were implanted in a 10-mm gap in the rat sciatic **nerve**, with three rats in each group. The regeneration was evaluated after six weeks using light microscope images of cross sections of the **nerve** that were digitized and analyzed. Histograms of the diameters of the axons were generated and compared. The cellular response to the implanted biomaterials was assessed histologically, and immunohistochemistry was performed using an antibody to alpha-smooth muscle actin in order to determine the presence of myofibroblasts (contractile cells). Axonal regrowth was comparable in porous collagen, non-porous collagen, and silicone tubes filled with a CG matrix. These results support the implementation of a degradable **collagen tube** in place of a silicone device. Confirming earlier work, regeneration through the silicone and **collagen tubes** was enhanced by the CG copolymer, compared to empty tubes. A notable finding was a continuous layer of myofibroblasts on the surfaces of all of the six silicone tube prostheses, but on the inner surface of only one of six **collagen tubes** (Fisher's exact tests; $P < 0.01$). This is the first report of contractile capsules around silicone tubes, and supports the use of degradable **collagen tubes** in peripheral **nerve** regeneration. Macrophages were found bordering both the silicone and **collagen tubes**, and in the case of the **collagen tubes**, appeared to be participating in the regulation of the tubes.

L40 ANSWER 58 OF 112 CAPLUS COPYRIGHT 2003 ACS
AN 1992:433637 CAPLUS
DN 117:33637
TI The development of collagen **nerve** conduits that promote peripheral **nerve** regeneration
AU Li, Shu Tung; Archibald, Simon J.; Krarup, Christian; Madison, Roger D.
CS Colla-Tec, Inc., Plainsboro, NJ, 08536, USA
SO Biotechnol. Polym., [Proc. Am. Chem. Soc. Symp. Polym. Biotechnol.] (1991), Meeting Date 1990, 281-93. Editor(s): Gebelein, Charles G. Publisher: Plenum, New York, N. Y.
CODEN: 57WRA3
DT Conference
LA English
AB The repair of peripheral **nerves** was investigated in animal models using **tubular** guiding conduits. The materials used to fabricate the **nerve** conduits and their physicochem. and mech. characteristics can influence the extent, rate and morphol. of regeneration. Permeability of the conduit **membranes** is one parameter which seems to play an important role in **nerve** regeneration. In the present study, two types of **nerve** conduits were developed from bovine tendon **collagen** with distinctly different permeabilities. The permeability of the conduit **membranes** was detd. by diffusion of various sized mols. across these **membranes**. One type of conduit had pores which only allowed small mols. such as glucose to pass (small pore **collagen** conduits). The other type had pores which were readily permeable to macromols. such as bovine serum albumin (large pore **collagen** conduits). The large pore **collagen** conduits supported **nerve** regeneration to a greater degree than the small pore **collagen** conduits when tested in mice to bridge 4 mm gaps of the sciatic **nerve**. Studies in rats and primates suggested that large pore **collagen** conduits worked as effectively as **nerve** autografts in terms of physiol. recovery of motor and sensory responses. The results of in vitro and in vivo studies of these conduits represent a significant step towards the specific aim of developing suitable off-the-shelf prostheses for clin. repair of damaged peripheral **nerves**.

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L40 ANSWER 23 OF 112 MEDLINE DUPLICATE 10
AN 1998429006 MEDLINE
DN 98429006 PubMed ID: 9758039
TI Early peripheral **nerve** healing in collagen and silicone tube implants: myofibroblasts and the cellular response.
AU Chamberlain L J; Yannas I V; Arrizabalaga A; Hsu H P; Norregaard T V; Spector M
CS Department of Mechanical Engineering, Massachusetts Institute of Technology, Cambridge 02139, USA.
SO BIOMATERIALS, (1998 Aug) 19 (15) 1393-403.
Journal code: 8100316. ISSN: 0142-9612.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199812
ED Entered STN: 19990115
Last Updated on STN: 19990115
Entered Medline: 19981208
AB Injuries to peripheral **nerves** innervating a limb cause paralysis, and can necessitate amputation. The inability of the **nerves** to regenerate spontaneously and the limitations of autograft procedures led to the development of treatments involving insertion of the **nerve** ends into prosthetic **tubular** devices. Previous work showed that 'entubulation' of the **nerve** ends in a silicone **tube** containing a specific porous, resorbable **collagen**-GAG (CG) copolymer, serving as an analog of extracellular matrix, improved regeneration compared to an empty silicone **tube** . However, long-term treatment with silicone **tubes** produced constriction that caused partial degradation of the regenerated **axons**; for this and other reasons, implementation of a nondegradable **tube** may require a second surgical procedure for removal. In this study the silicone **tube** was replaced with porous and non-porous **collagen tubes** in order to produce fully degradable devices. CG-filled **collagen tubes** and controls (CG-filled silicone **tubes** and empty **collagen** and silicone **tubes**) were implanted in a 10-mm gap in the rat sciatic **nerve**, with three rats in each group. The regeneration was evaluated after six weeks using light microscope images of cross sections of the **nerve** that were digitized and analyzed. Histograms of the diameters of the **axons** were generated and compared. The cellular response to the implanted biomaterials was assessed histologically, and immunohistochemistry was performed using an antibody to alpha-smooth muscle actin in order to determine the presence of myofibroblasts (contractile cells). **Axonal** regrowth was comparable in porous **collagen**, non-porous **collagen**, and silicone **tubes** filled with a CG matrix. These results support the implementation of a degradable **collagen tube** in place of a silicone device. Confirming earlier work, regeneration through the silicone and **collagen tubes** was enhanced by the CG copolymer, compared to empty **tubes**. A notable finding was a continuous **layer** of myofibroblasts on the surfaces of all of the six silicone **tube** prostheses, but on the inner surface of only one of six **collagen tubes** (Fisher's exact tests; $P < 0.01$). This is the first report of contractile capsules around silicone **tubes**, and supports the use of degradable **collagen tubes** in peripheral **nerve** regeneration. Macrophages were found bordering both the silicone and **collagen tubes**, and in the case of the **collagen tubes**, appeared to be participating in the regulation of the **tubes**.

L40 ANSWER 25 OF 112 SCISEARCH COPYRIGHT 2003 ISI (R) DUPLICATE 1

L40 ANSWER 25 OF 112 SCISEARCH COPYRIGHT 2003 ISI (R)DUPLICATE 11
AN 1998:73438 SCISEARCH
GA The Genuine Article (R) Number: YR133
TI Histological response to a fully degradable collagen device implanted in a gap in the rat sciatic **nerve**
AU Chamberlain L J (Reprint); Yannas I V; Hsu H P; Spector M
CS MIT, DEPT MECH ENGN, CAMBRIDGE, MA 02139; HARVARD UNIV, SCH MED, BRIGHAM & WOMENS HOSP, DEPT ORTHOPED SURG, BOSTON, MA 02115; BROCKTON W ROXBURY VET ADM MED CTR, REHABIL ENGN R&D LAB, W ROXBURY, MA 02401
CYA USA
SO TISSUE ENGINEERING, (WIN 1997) Vol. 3, No. 4, pp. 353-362.
Publisher: MARY ANN LIEBERT INC PUBL, 2 MADISON AVENUE, LARCHMONT, NY 10538.
ISSN: 1076-3279.
DT Article; Journal
LA English
REC Reference Count: 33
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Methods for engineering the regeneration of peripheral **nerve** in lesions have generally focused on the implementation of **tubes** as implants to bridge the defect. Previous study has shown that a highly porous analog of the extracellular matrix of a specific pore size range, ensheathed by a silicone **tube**, enhanced the regeneration of **axons** across gaps of 10 mm and greater in a transected adult rat sciatic **nerve** model, This study reports the histological findings resulting from implantation of a fully degradable **collagen** device comprising the **collagen** -glycosaminoglycan (GAG) analog in a **collagen tube** in a 10-mm gap in this animal model, Silicone **tubes**, with and without the **collagen**-GAG matrix, served as controls, Results indicated that **axons** had regrown into the midsection of the gap in all prostheses by 30 weeks; however, in the presence of the **collagen**-GAG matrix, the number and size of the **axons** appeared to increase, A **layer** of fibrous tissue approximately 100 mu m thick, which contained fibroblasts, surrounded the silicone **tubes** but was not visible along the **tube** wall in any of the **collagen tube** prostheses, These findings show the promise of a fully degradable prosthesis for facilitating regeneration following peripheral **nerve** injuries.

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